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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/083,177 | 02/25/2002 | Ching Man Stanley Tsui | P/4076-19 | 5117 |
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EXAMINER

PATEL, PARESH H

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 12/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/083,177

Applicant(s)

TSUI ET AL. 

Examiner

Paresh Patel

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_. 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Objections***

Claim 8 is objected to because of the following informalities: at line 9 on page 13 "said components" should read -- said singulated electronic component -- or -- said unsingulated electronic component --.

Claim 9 is objected to because of the following informalities: at line 14 on page 13 "the electronic" should read -- the singulated electronic --.

Claim 11 is objected to because of the following informalities: at line 20 on page 13 "including means" should read -- moving means --.

Claim 12 is objected to because of the following informalities: at line 25 on page 13 "the electronic" should read -- the singulated electronic -- or -- the unsingulated electronic --.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-13 and 15-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Atkins et al. (US 5570032).

Regarding claims 1 and 8, Atkins et al. (hereafter Atkins) in fig. 3-8 discloses: an apparatus for processing an unsingulated array of electronic components [wafer and 7 of fig. 2] comprising:

a mounting means [a vessel and lines 60-67 of column 5] for mounting electronic components;

a singulating device [singulation system 41 and lines 39-42 of column 6] for singulating the said array of electronic components;

and a testing device [external test circuitry and lines 26-29 of column 6] for testing each of the said components for defects;

whereby singulation and testing of electronic components are conducted while they are mounted on the mounting means without removal therefrom [lines 1-52 of column 6].

Regarding claims 2 and 9, Atkins discloses: an inscribing device [lines 39-42 of column 6] for marking each of the electronic components while they are mounted on the mounting means.

Regarding claims 3 and 10, Atkins discloses: the singulation, testing and marking are carried out at two or more stations of the apparatus [lines 11-15, 26-29 and 39-40 of column 6].

Regarding claims 4 and 11, Atkins discloses: means for moving the electronic components for processing at least between the testing and marking positions [lines 11-25 of column 6].

Regarding claim 12, Atkins discloses: the moving means is adapted to move the electronic components in linear and rotary axes, such as an XYZ-Theta table [inherent to a queue and transport at lines 11-25 of column 6].

Regarding claim 13, Atkins discloses: the mounting means comprises a film of material having an adhesive [18 or 35] on one side and stretched on a support frame [17 or 33], whereby electronic components are mountable on the adhesive side.

Regarding claims 5 and 15, Atkins discloses: an orientating device [robot means, lines 16-17 of column 5 and lines 4-7 of column 6] to adjust alignment of electronic components and/or to locate the positions of defective components.

Regarding claim 16, Atkins discloses: the orientating device is an image recognition vision system [lines 16-21 of column 5].

Regarding claims 6 and 17, Atkins discloses: the inscribing device is a laser device [inherent to lines 17-20 of column 6] which generates a laser beam to mark a surface of an electronic device by heating said surface [heating the surface is inherent during marking].

Regarding claims 7 and 18, Atkins discloses: the mounting means comprises a film of transparent tape [lines 41-49 of column 5] with an adhesive surface on which electronic components are mountable, and wherein the laser device is adapted to mark a surface of each electronic component [lines 23-35 of column 3 and lines 39-42 of column 6] that is mounted on said adhesive surface of the transparent tape.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Atkins as applied to claims 13 and 8 above, and further in view of Khandros et al. (US 6064213).

Regarding claim 14, Atkins discloses all the essential elements of the claimed invention except for a vacuum chuck. Rather, Atkins discloses a plate [19] which provides sturdy, rigid support. Khandros et al. (hereafter Khandros) discloses a vacuum chuck [104]. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Atkins with vacuum chuck of Khandros, in order to hold the support member using vacuum for testing and marking the singulated electronic components.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Atkins.

Regarding claim 19, Atkins discloses: an inverting device [robot and vacuum arm]. Atkins inverting device is not used to invert the transparent tape to expose the surface of each electronic component that is mounted on said adhesive surface of the transparent tape to the laser device for marking. It is obvious to use inverting device of Atkins to invert the transparent tape to expose the surface of each electronic component

to the laser device for marking, in order to laser-mark a backside of the electronic component for identification.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paresh Patel whose telephone number is 703-306-5859. The examiner can normally be reached on M-F (8:30 to 4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 703-308-1233. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Paresh Patel  
December 8, 2002

  
**KAMAND CUNEO**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2800**